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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/544,255	10/31/2006	Reinhold Klipper	CH-8378/LeA 36,568	1479

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Lanxess Corporation
Law & Intellectual Property Department
111 Ride Park West Drive
Pittsburgh, PA 15275-1112

EXAMINER

PENG, KUO LIANG

ART UNIT	PAPER NUMBER
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1796

MAIL DATE	DELIVERY MODE
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07/24/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/544,255	Applicant(s) KLIPPER ET AL.	
	Examiner Kuo-Liang Peng	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/22/06 IDS.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 15-24 is/are rejected.
- 7) ☒ Claim(s) 13-14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/22/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The Applicants' preliminary amendment filed September 19, 2006 is acknowledged. Claims 1-14 are amended. Claims 15-24 are added. Now, Claims 1-24 are pending.

Specification

2. The disclosure is objected to because of the following informalities:

Applicants are advised that a Brief Description of the Drawing is missing.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.
4. Claims 19-20 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In Claims 19-20, Examiner is not able to find the basis for "monodisperse adsorber" and "heterodisperse adsorber", respectively.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-10, 15-20, 22 and 24 are rejected under 35 U.S.C. 102(b) as anticipated by Granda (US 4 017 427).

For Claims 1, 5 and 15, Granda discloses a mixture comprising an organopolysiloxane polyether and free-flowing polymer beads prepared by polymerization of styrene in aqueous suspension. (Abstract, col. 2, line 57 to col. 3, line 38 and Examples) The molecular weight of the organopolysiloxane polyether is described in col. 4, lines 1-10. Additional monomers such as vinyltoluene, isopropylstyrene, *t*-butylstyrene, acrylonitrile, maleic anhydride, etc. can be employed for preparing the polymer. (col. 2, line 56 to col. 3, line 5) As such, the polymer indeed is functionalized with groups such as methyl, isopropyl, *t*-butyl,

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cyano, anhydride, etc. For Claims 2, 4, 6-10, 16-20, 22, the preamble “ion exchangers”, “adsorber” are merely an intended use, and do not carry any weight of patentability. See MPEP 2111.02. Additional monomers such as vinyltoluene, isopropylstyrene, *t*-butylstyrene, acrylonitrile, maleic anhydride, etc. can be employed for preparing the polymer. (col. 2, line 56 to col. 3, line 5) As such, the polymer indeed is functionalized with groups such as methyl, isopropyl, *t*-butyl, cyano, anhydride, etc. Notably, the anhydride groups can be capable of undergoing hydrolysis to afford carboxylic groups that is capable of cationic ion exchanging/adsorbing. The amount of the organopolysiloxane polyether is illustrated in Examples. The amount of aliphatic hydrocarbon (i.e., an oil) can be found in col. 3, lines 43-63 and Examples. The mixture is prepared according to Examples without explicitly mentioning any specific atmosphere under which the mixing was carried out. Therefore, conventionally, the mixing is performed under air. For Claims 3 and 24, the foregoing anhydride groups on the polymer beads can undergo hydrolysis to afford carboxylic groups that is **capable** of cationic ion exchanging/adsorbing.

Claim Rejections - 35 USC § 103

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7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 11-12, are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Granda.

Granda discloses a mixture, *supra*, which is incorporated herein by reference. Granda is silent on using the mixture in a filter or a cartridge. Since the reference discloses all the limitations of a claim except a property or function, and the examiner cannot determine whether or not the reference inherently possesses properties which anticipate or render obvious the claimed invention but has basis for shifting the burden of proof to applicant as in *In re Fitzgerald*, 619 F.2d 67, 205 USPQ 594 (CCPA 1980).

9. Claims 1-7, 9, 11-12, 15-21 and 23-24 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kashihara (US 5 059 505).

For Claims 1, 5-7, 9 and 15-20, Kashihara discloses a mixture comprising an organopolysiloxane polyether oil (a dispersant) and polymer particles. The polymer particles can be crosslinked, which are prepared from non-aqueous suspension polymerization derived from monomers such aromatic monomers such as styrene, etc. and crosslinkers. (Abstract, col. 2, line 27 to col. 3, line 46, col. 5, line 28 to col. 6, line 64 and Examples) Kashihara is silent on the polymer particles being prepared by aqueous suspension polymerization. However, the instant claims are product-by-process claims. "Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process" *In re Thorpe*, 777 F. 2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). "The Patent Office bears a lesser burden of proof in making out a case of prima facie obviousness for product-by-process claims because of their peculiar nature" than when a product is claimed in the conventional fashion. *In re Fessmann*, 489 F.2d 742, 744, 180 USPQ 324, 326 (CCPA 1974). Once the examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although

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produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983) "[T]he lack of physical description in a product-by-process claim makes determination of the patentability of the claim more difficult, since in spite of the fact that the claim may recite only process limitations, it is the patentability of the product claimed and not of the recited process steps which must be established. We are therefore of the opinion that when the prior art discloses a product which reasonably appears to be either identical with or only slightly different than a product claimed in a product-by-process claim, a rejection based alternatively on either section 102 or section 103 of the statute is eminently fair and acceptable. As a practical matter, the Patent Office is not equipped to manufacture products by the myriad of processes put before it and then obtain prior art products and make physical comparisons therewith." *In re Brown*, 459 F.2d 531, 535, 173 USPQ 685, 688 (CCPA 1972). The amount of the dispersant can be as low as 1 wt% as described in col. 5, lines 28-47, which falls within the claimed range because the specific gravities of the dispersant and the polymer particles are similar. For Claims 2-3, 21 and 23-24, Kashihara further teaches, for synthesizing the polymer particles, the employment of co-monomers such as carboxyl group-

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containing monomers, 2-acrylamide-2-methylpropanesulfonic acid, 2-sulfoethyl methacrylate, dimethylaminoethyl acrylate, diethylaminoethyl methacrylate, etc.

(col. 5, line 48 to col. 6, line 17) As such, the foregoing mixture should be capable of being cationic and/or anionic exchanger/adsorbent. For Claim 4, Kashihara's polymer particles are formed in situ the organopolysiloxane polyether as a dispersant, *supra*. During the particle formation, by virtue of the function of the dispersant, the organopolysiloxane polyether is mixed with the particles formed. For Claims 11-12, Kashihara is silent on the claimed articles. However, since the reference discloses all the limitations of a claim except a property or function, and the examiner cannot determine whether or not the reference inherently possesses properties which anticipate or render obvious the claimed invention but has basis for shifting the burden of proof to applicant as in *In re Fitzgerald*, 619 F.2d 67, 205 USPQ 594 (CCPA 1980).

10. Claims 13-14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

None of the above references teaches or fairly suggests the processes set forth in the instant claims.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kuo-Liang Peng whose telephone number is (571) 272-1091. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jim Seidleck, can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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July 21, 2009

/Kuo-Liang Peng/

Primary Examiner, Art Unit 1796